

Fear of Childbirth among Pregnant Women Availing Antenatal Services in a Maternity Hospital in Rural Karnataka

Avita Rose Johnson, Melvin Kumar G, Rosy Jacob, Maria Arul Jessie, Fabiyola Mary, Twinkle Agrawal, Vijaya Raman¹

ABSTRACT


Background: Pregnancy, though joyful, may be a time of fear and anxiety. Twenty percent of pregnant women in developed nations report a fear of childbirth, and 6%–10% describe a severe fear that is crippling. This could lead to adverse maternal and fetal outcomes. Data on fear of childbirth among pregnant women are lacking in India and would help in incorporating measures to enhance routine antenatal care. **Methodology:** With the objective of documenting fear of childbirth and associated factors, a cross-sectional study was conducted in rural Karnataka among women availing antenatal care services, using a face-validated 30 item questionnaire developed by the authors which was then scored to determine fear of childbirth. **Results:** Of 388 women studied, 45.4% (176) had a fear of childbirth. The commonest fears documented were: not feeling confident about childbirth, being afraid or tense about the process of childbirth, fear of labor pains, and fear of cesarean section. Teenage pregnancy, nulliparity, primigravida status, and having no living child were significantly associated with fear of childbirth. **Conclusion:** Overall, 45.4% (176) of women had a fear of childbirth. It is important to identify and address the various fears of childbirth that women may have, as revealed by this study, with a view to providing information and reassurance to the mother, with the aim of improved maternal and fetal outcomes.

Key words: Fear of childbirth, gravida, parity, pregnant women, primigravida

Key messages: It is important to identify and address the fears of childbirth that women may have before, during and after childbirth and it will help in better maternal and fetal outcomes.

Motherhood and pregnancy are cherished moments in a woman's life. Pregnancy, for most women, should be a period of great happiness and fulfillment. However, giving birth to a child is one of the most

intense experiences a woman can go through, so it is understandable that many women are nervous about

Access this article online	
Website: www.ijpm.info	Quick Response Code 
DOI: 10.4103/IJPSYM.IJPSYM_292_18	

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Johnson AR, Kumar MG, Jacob R, Jessie MA, Mary F, Agrawal T, et al. Fear of childbirth among pregnant women availing antenatal services in a maternity hospital in rural Karnataka. Indian J Psychol Med 2019;41:318-22.

Departments of Community Health and ¹Psychiatry, St. John's Medical College, Bengaluru, Karnataka, India

Address for correspondence: Dr. Melvin Kumar G
Room No. 115 'D' Block, St. John's Men's Hostel, Sarjapur Road, Koramangala, Bengaluru - 560 034, Karnataka, India.
E-mail: drmelvinkumar@gmail.com

Received: 12th July, 2018, **Accepted:** 07th January, 2019

childbirth. The fear of pregnancy is called tokophobia. It is defined as an intense state of anxiety which leads some women to fear childbirth and consequently to avoid pregnancy despite desperately wanting a baby.^[1] With regard to childbirth, it is probably normal to experience some concern or anxiety.^[2] Termination of pregnancy may be requested by women who suffer from tokophobia who dearly want a baby but are unable to understand their own aversion to parturition.^[3] Twenty percent of pregnant women report fear of childbirth and 6%–10% describe a severe fear that is crippling.^[4] An irrational fear of childbirth can affect the entire pregnancy, complicate labor, lead to difficulties in the mother–infant relationship, and to postpartum depression.^[5] Data on fear of childbirth among antenatal mothers would help healthcare professionals to provide targeted psychological support to those mothers who require it and an opportunity to alleviate fears of childbirth during pregnancy itself, thereby improving maternal and fetal outcomes. However, this particular data is scarce in India, especially among rural women who contribute significantly to the country's population. Therefore, it was decided to assess the fear of childbirth among women availing antenatal care services in a rural area of South India.

METHODOLOGY

A cross-sectional study was conducted in a rural maternity hospital in Ramanagara District of South Karnataka between March 2016 and May 2016. The sample size was calculated to be 304, assuming a 24% prevalence of fear of childbirth among pregnant women as evinced from an Australian study^[6] along with a 20% relative precision. All pregnant women availing antenatal services at the hospital were included, irrespective of gestational age. Pregnant women in labor were excluded. Consecutive sampling method was employed. Written informed consent was taken before administering a questionnaire. As there was no available validated questionnaire to assess fear of childbirth among pregnant woman in an Indian setting, it was decided to develop a questionnaire for this purpose. The process began with a review of the available literature, followed by qualitative in-depth interviews with pregnant women attending an antenatal clinic in a different village located in Bangalore Urban District. Fears regarding labor, birth, and after-birth were discussed and documented, and a draft questionnaire was formulated. This was then face-validated by three experts in the field of Psychiatry and Maternal Health and was piloted among 10 pregnant women after taking written informed consent, in the same village where the qualitative interviews were conducted. After a few final modifications, the final questionnaire recorded socio-demographic and obstetric details and a 30-item

“Fear of Childbirth Questionnaire [Online appendix],” which had three parts documenting (1) fear before childbirth—11 questions, (2) fear during childbirth—13 questions, and (3) fear after childbirth—six questions. Response to each question had one of the three responses: agree, disagree, or neutral. A response indicating fear of childbirth received a score of 1 (“agree” was scored 1, disagree and neutral did not indicate a fear of childbirth so was scored as 0). Therefore, it was possible to score a total of 0 to 30 (where a higher score indicated greater fear). Cronbach's alpha was calculated to be 0.89, indicating a high level of internal consistency (reliability) of the questionnaire. This questionnaire was in the local language (Kannada).

The study was conducted after obtaining institutional ethics committee approval, and all the participants provided written informed consent before recruitment. Data was entered in a Microsoft Excel worksheet and analyzed using SPSS version 16. Descriptive analysis for socio-demographic and obstetric variables was performed using means, standard deviations, and proportions. For tests of association between fear of childbirth scores and socio-demographic and obstetric variables, Student's *t*-test and Analysis of variance (ANOVA) were used. Multiple linear regression was performed with the factors that were significantly associated.

RESULTS

A total of 388 antenatal women were included in the study. Most of the women belonged to the age group of 20–25 years, with the mean age being 22.9 ± 2.9 years [Table 1]. Most of the women belonged to Hindu religion, hailed from a joint family, and had studied till high school or beyond. Majority were homemakers, belonged to middle socio-economic class by Modified BG Prasad scale^[7] and were in possession of a below poverty line (BPL) card. Mean age at marriage was 20.65 ± 2.36 years. Over half the women were primigravidae.

The “fear of childbirth scores” were divided into quartiles. Those with scores above the 50th percentile (score of 4 and above) were considered to have a fear of childbirth. The mean “Fear of childbirth” score was found to be 4.54 ± 1.91 . Fear of childbirth scores were found to be significantly higher among teenage mothers, nulliparous women, primigravidae, and those with no living children [Table 1]. No significant association was found between fear of childbirth scores and religion, type of family, education, occupation, socio-economic status, previous history of stillbirth or abortion, or age at marriage.

Table 1: Association between Fear of Childbirth scores and various socio-demographic and obstetric variables

Socio-demographic and obstetric variables	Categories	n (%)	Mean "Fear of childbirth" score	P
Age in years		388	Correlation coefficient (r) = 0.104	P=0.041 [#]
Religion	Hindu	337 (86.9)	4.51	F=1.20
	Muslim	29 (7.4)	3.52	P=0.302**
	Other	22 (5.7)	5.63	
Type of family	Nuclear	111 (28.6)	5.04	t=1.256
	Joint	272 (71.4)	4.34	P=0.210*
Education	Up to middle school	50 (12.9%)	5.76	F=2.12
	High school	149 (38.4%)	4.61	P=0.121**
	College and above	189 (48.7%)	4.16	
Occupation	Homemaker	355 (91.5%)	4.49	t=0.708
	Gainfully employed	33 (8.5%)	5.12	P=0.479*
Socioeconomic status	Upper middle and Middle class	378 (97.4%)	4.5	t=0.429
	Lower middle and Lower class	10 (2.6%)	5.2	P=0.668*
Parity status	Nulliparous	242 (62.4%)	5.55	t=5.3
	Multiparous	146 (37.6%)	2.87	P=0.001*
History of previous stillbirth	No stillbirth	384 (384%)	4.51	t=-1.2
	Previous stillbirth	4 (1%)	7.50	P=0.227*
History of previous abortion	No	337 (86.9%)	4.47	t=-1.2
	Yes	51 (13.1%)	5.37	P=0.195*
Gravida	Primigravida	218 (56.1%)	5.49	t=4.3
	Multigravida	170 (43.9%)	3.33	P=0.001*
No of living children	No living children	251 (64.7%)	5.62	t=6.13
	At least one living child	137 (35.3%)	2.56	P=0.001*

*Student's t-test, **ANOVA, [#]Correlation

Table 2: Multivariable linear regression: Adjusted factors for fear of childbirth

Variables	Coefficient of regression	t	95% C.I. for coefficient		P
			Lower	Upper	
Constant	8.31	7.89	6.28	10.4	0.01*
Age	0.25	0.52	-0.93	0.98	0.96
Gravida	0.55	0.60	-1.24	2.35	0.54
Para	1.63	0.95	-1.73	4.99	0.34
Living child	-5.12	-3.13	-8.34	-1.91	0.02*

*Statistically significant at Alpha = 5%

On performing multilinear regression, after adjusting for other variables, it was found that women with a living child were likely to have significantly lower fear of childbirth score as compared to women with no living children [Table 2]. Co-efficient of regression was -5.12 (-8.3 to -1.9). The most common fears regarding childbirth are presented in Figure 1. Not feeling confident about childbirth, being afraid or tense about the process of childbirth, and fear of labor pains were the most frequently mentioned fears. Women also mentioned the fear of cesarean section and episiotomy. Women anticipated not being able to take care of the baby by themselves during the postpartum period and not being able to breastfeed the baby properly. They also expressed a fear of becoming unattractive after birth.

DISCUSSION

An irrational fear of childbirth can affect maternal and fetal outcomes^[5] and therefore, should be looked for and

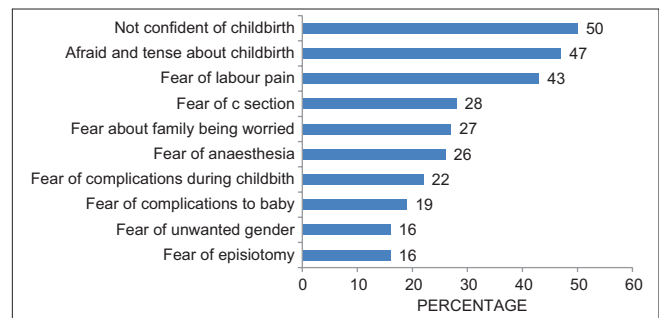


Figure 1: Top 10 Fears regarding childbirth

addressed during pregnancy. In this study, it was found that women had a fear of childbirth, fearing events that may occur before, during or after childbirth. An extensive review of the literature revealed no similar study from India. A few international studies on fear of childbirth have documented only the possible fears of events taking place during childbirth and have not addressed events occurring before or after childbirth. Therefore, it is difficult to compare the findings of our study with any other currently published studies. However, it is interesting to note that in an Australian sample of pregnant women, Toohill *et al.*^[6] found the prevalence of fear of childbirth to be 24%. A similar study in Stafford, the UK by Hofberg *et al.* reported 20% of pregnant women with fear of childbirth.^[3] Nieminen *et al.*, in Sweden,^[8] reported a prevalence of 15.8% for fear of childbirth. In a cohort study conducted among Swedish women, the prevalence of fear of birth was 22% in mid-pregnancy and 19% in late pregnancy.^[9]

These studies had used the Wijma Delivery Expectancy Questionnaire (WDEQ). WDEQ captures the fear of childbirth in terms of events during the actual childbirth and not events preceding or following it. Our study was able to capture a wide range of fears before, during, and after childbirth. However, it was beyond the scope of the present study to determine a cut-off score for fear of childbirth.

A study on the relationship between fear of childbirth and anxiety among Turkish pregnant women by Körükcü *et al.* found that 41.1% of pregnant women had a fear of childbirth.^[10] This higher level of fear of childbirth in Turkey may be explained in a socio-cultural context, where women may not have been able to discuss their fears openly. Most studies have used the WDEQ as a screening tool for detecting a fear of childbirth. Internal consistency, i.e., Cronbach's alpha coefficient value, of WDEQ is 0.91 and 0.89 as reported in a few studies.^[11,12] However, in the present study, a 30-item questionnaire was developed to document fears of childbirth in an Indian setting, encompassing the periods before and after childbirth, as well as during childbirth. Cronbach's alpha value of this questionnaire is 0.89 which indicates good internal consistency (reliability). A study on the fear of childbirth among primigravida in Kerala, by Jaju *et al.*, found that fear associated with childbirth was expressed by 17.7% women.^[13] In the present study, primigravidae were found to have a significantly higher mean fear of childbirth score. But on multilinear regression, after adjusting for other factors, it was "having at least one living child" which was found to be significantly associated with a lower fear of childbirth score. The implication of this finding is that women who have no living child are more likely to have a fear of childbirth, and therefore, targeted interventions to this specific group are required during antenatal care to allay their fears. A wide variety of possible fears of childbirth has been documented in our study and were divided into three different parts, i.e. fear before childbirth, fear during childbirth and fear after childbirth. Before childbirth, the common fears about the period were fear of labor pain, fear of family being worried and fear of prolonged labor. Fears during childbirth were: not being confident about childbirth, being afraid and tense about childbirth, fear of cesarean section, fear of anesthesia and fear of episiotomy. After delivery, common fears about the period after delivery were fear of not be able to take care of her child by herself, not being able to breastfeed her child properly and fear of becoming unattractive. It is interesting to note that rural women had seemingly "medical" fears like fear of cesarean section, anesthesia, and episiotomy, which may be attributed to the rising education levels among rural women^[14] as well as

improved access to mass media. This finding is different from other studies done in Finland and Sweden, where women opted for cesarean section due to fear of labor pain. In a study conducted among women from Wangaratta & Örnköldsvik, in Sweden found that women with a fear of childbirth prefer cesarean section and epidural anesthesia and had less positive feeling about being pregnant.^[15] In a similar study conducted among 5,11,938 women in Finland found that fear of childbirth was the second strongest associated factor for major depression and women opted for cesarean section due to fear of labor pain.^[16] In our study, we did not assess depression. It is evident in the present study that pregnant women have valid fears regarding childbirth, which need to be addressed. Considering the fact that routine antenatal care affords many opportunities for contact with pregnant women, fear of childbirth is something that healthcare professionals need to be aware of and should take steps to ensure that pregnant women receive adequate health education and counseling to allay these fears, in the view of better labor and perinatal outcomes. Partial medical knowledge about the procedures of labor might have increased the anxiety in pregnant women. Healthcare professionals should also consider these aspects during regular antenatal checkups.

Limitations

The pregnant women were not screened for any psychiatric illness or personality problems, the presence of which may have influenced the results. The tool used to screen for fear of birth was not a validated one. Reliability and validity of the questionnaire need to be checked in a larger population, and a cut-off score needs to be determined for fear of childbirth, which further research may be able to answer. But the strength of our study is the inclusion of the varieties of fears regarding childbirth which has not been earlier identified by other screening tools.

CONCLUSION

Overall, 45.4% of pregnant women in this study had a fear of childbirth. There was a significant association of fear of childbirth with lower gravida score, lower parity, lower number of living children, and a history of previous stillbirth. The most common fears regarding childbirth were: not feeling confident about childbirth, being afraid or tense, and fear of labor pains, cesarean section or episiotomy. Health care workers and professionals should be aware of the possible fears of childbirth that pregnant women may have, in order to identify and address these fears in the antenatal period. More research is required to explore the factors important to reduce the fear of childbirth.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Scollato A, Lampasona R. Tokophobia: When fear of childbirth prevails. *Mediterranean J Clin Psychol* 2013;1 (2282-1619). doi: 10.6092/2282-1619/2013.1.893.
2. Fisher C, Hauck Y, Fenwick J. How social context impacts on women's fears of childbirth: A Western Australian example. *Soc Sci Med [Internet]* 2006;63:64-75.
3. Hofberg K, Ward M. Fear of pregnancy and childbirth. *Postgrad Med J* 2003;79:505-10.
4. Searle J. Fearing the worst – Why do pregnant women feel 'at risk'? *Aust N Z J Obstet Gynaecol* 1996;36:279-86.
5. Hofberg K, Brockington IF. Tokophobia: An unreasoning dread of childbirth. *Br J Psychiatry [Internet]* 2000;176:83-5.
6. Toohill J, Fenwick J, Gamble J, Creedy DK. Prevalence of childbirth fear in an Australian sample of pregnant women. *BMC Pregnancy Childbirth* 2014;14:275.
7. Sharma R. Online interactive calculator for real-time update of the Prasad's social classification. Available from: www.prasadscaleupdate.weebly.com. [Last accessed on 2016 Aug 01].
8. Nieminen K, Stephansson O, Ryding EL. Women's fear of childbirth and preference for cesarean section--a cross-sectional study at various stages of pregnancy in Sweden. *Acta Obstet Gynecol Scand* 2009;88:807-13.
9. Hildingsson I, Haines H, Karlström A, Nystedt A. Presence and process of fear of birth during pregnancy—Findings from a longitudinal cohort study. *Women Birth* 2017;30:e242-7.
10. Körükcü Ö, Fırat MZ, Kukulü K. Relationship between fear of childbirth and anxiety among Turkish pregnant women. *Procedia - Soc Behav Sci [Internet]*. 2010;5(Supplement C):467-70.
11. Mortazavi F. Validity and reliability of the Farsi version of Wijma delivery expectancy questionnaire: An exploratory and confirmatory factor analysis. *Electron Physician* 2017;9:4606-15.
12. Korukcu O, Kukulü K, Fırat MZ. The reliability and validity of the Turkish version of the Wijma Delivery Expectancy/ Experience Questionnaire (W-DEQ) with pregnant women. *J Psychiatr Mental Health Nurs* 2012;19:193-202.
13. Jaju S, Al Kharusi L, Gowri V. Antenatal prevalence of fear associated with childbirth and depressed mood in primigravid women. *Indian J Psychiatry [serial online]* 2015;57:158-61.
14. NFHS 3. (National Family Health Survey-3), International Institute for Population Sciences and Ministry of Health and Family Welfare, Government of India; 2005-06. p. 56.
15. Haines H, Rubertsson C, Pallant J, Hildingsson I. The influence of women's fear, attitudes and beliefs of childbirth on mode and experience of birth. *BMC pregnancy Childbirth* 2012;12:55.
16. Räisänen S, Lehto SM, Nielsen HS, Gissler M, Kramer MR, Heinonen S. Risk factors for and perinatal outcomes of major depression during pregnancy: A population-based analysis during 2002–2010 in Finland. *BMJ Open* 2014;4:e004883.

ONLINE APPENDIX

Fear of childbirth questionnaire

1. Sociodemographic details

1.1	Name	
1.2	How old are you now? (Age in completed years)	
1.3	Marital status	Married - 1 Separated/Divorced - 2 Widowed - 3 Unmarried - 4
1.4	Religion	Hindu - 1 Muslim - 2 Christian - 3 Others - 4 Pls specify
1.5	Phone number	
1.6	Education	Total no. of years of education (do not count pre-school)
1.7	BPL card holder	0...No 1...Yes
1.8	Occupation	1. Salaried 2. Self employed 3. Daily wage earner 4. Agriculturist 5. House wife
1.9	Total family members	
1.10	Total family income	In Rs/month
1.11	Type of family	Nuclear - 1 Joint/Three generation/Extended - 2
1.12	Age of husband	In completed years
1.13	Education of husband	Total no. of years of education (do not count pre-school)
1.14	Occupation of Husband	1. Salaried 2. Self-employed 3. Daily wage earner 4. Agriculturist 5. Unemployed

2. Obstetric details

2.1	Age at marriage (In completed years)	
2.2	Current Gestational age	
2.3	Obstetric Score: Gravida	
2.4	Para (no. of previous births)	
2.5	Abortions	
2.6	No. of living children	
2.7	No. of children who died	
2.8	No. of still births	
2.9	Was your present pregnancy planned?	1=yes, 2=No
2.10	Did you see anyone for antenatal care during present pregnancy?	Yes. 1 No. 0 (SKIP TO Q 3.1)
2.11	How many times in total did you receive antenatal care during your pregnancy?	No. of times. Don't know....99
2.12	How many weeks pregnant were you when you first received antenatal care for this pregnancy?	Less than 12 weeks.....1 More than 12 weeks.....2 Don't know. 99
2.13	Whom did you regularly see for a checkup for this pregnancy	Doctor. 1 Nurse. 2 Other (specify) ____
2.14	Where did you mostly go for antenatal checkups ?	Govt health facility1 Private health facility....2

3. Fear before childbirth

		Agree	Neutral	Disagree
3.1	I fear that I will go into labor much before my due date			
3.2	I fear that I will not have labor pains even after I cross my due date.			
3.3	I fear no one will be there to take me to hospital at the onset of labor			
3.4	I fear I may give birth at home or on the way to the hospital			
3.5	I fear that no doctor or nurse will attend to me when I reach the hospital			
3.6	I fear that my labor may be too long			
3.7	I fear labor pains			
3.8	I fear that I will feel lonely/helpless during labor			
3.9	I fear I may lose control over my bowel and bladder during labor			
3.10	I fear that I may have increased blood pressure during labor			
3.11	I fear that my family may be tensed and worried once my labor starts			

4. Fear during childbirth

		Agree	Neutral	Disagree
4.1	I feel afraid/tense thinking about child birth			
4.2	I feel happy/confident thinking about childbirth			
4.3	I fear that I may have some complications during childbirth			
4.4	I fear I may bleed excessively during childbirth			
4.5	I fear that I may die as a result of childbirth			
4.6	I am afraid of episiotomy			
4.7	I am afraid that I may have a caesarean section			
4.8	I am afraid of anesthesia during caesarean section			
4.9	I fear that my baby may have some complications during childbirth			
4.10	I fear I will give birth to abnormal child			
4.11	I fear that my baby may die during childbirth			
4.12	I fear that I may deliver a baby of an unwanted gender			
4.13	I fear I may not have enough money for the delivery			

5. *Fear after childbirth*

	Agree	Neutral	Disagree
5.1	I fear no one will be there to take care of me and my child during postpartum period		
5.2	I fear I will not be able to take care of my child by myself during postpartum period		
5.3	I fear I may not be able to breastfeed my child properly		
5.4	I fear of having pain during sex after child birth		
5.5	I fear I will lose my job, have to quit my job or stop working after the birth		
5.6	I fear I may become unattractive/fat after childbirth		
